

APPLICATION NO 10724905

August 24, 2004

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1. An integrated, tunable capacitor, comprising:

a semiconductor body including a semiconductor region of a first conductivity type;

a first insulating region adjoining said semiconductor region of said first conductivity type;

a control electrode for applying a control voltage, said control electrode configured on said first insulating region;

a first region of a second conductivity type, said first region introduced into said semiconductor body, said first region adjoining said semiconductor region, said first region including a highly doped region of said second conductivity type, said highly doped region of said second conductivity type being highly doped with respect to said first region, said highly doped region of said second conductivity type for obtaining a tuning voltage; and

a well region of said second conductivity type, said well region configured in said first region of said second conductivity type, said well region configured below said highly doped region of said second conductivity type;

said highly doped region of said second conductivity type embodied as a terminal region.

2. The capacitor according to claim 1, further comprising:

a second region of said second conductivity type;

said second region of said second conductivity type configured symmetrically with respect to said first region;

said second region of said second conductivity type including a highly doped region for obtaining a control voltage;

said highly doped region of said second region being highly doped with respect to other regions of said second region;

said first region having a layer thickness; and

said second region of said second conductivity type having a layer thickness equal to said layer thickness of said first region.

3. The capacitor according to claim 1, further comprising:

a second insulating region introduced into said semiconductor body between said first region and portions of said

said first region has a common interface with said first insulating region and said semiconductor region below said control electrode.

7. The capacitor according to claim 1, wherein:

said first region has a layer thickness that is greater than a maximum depth of a space charge zone that would be established by applying variable control voltage to another structure including:

a semiconductor body having a semiconductor region of said first conductivity type, a first insulating region adjoining said semiconductor region, and a control electrode configured on said first insulating region, said control electrode being supplied with the variable control voltage.

CLAIMS 8-15 (CANCELLED)